

REMARKS

Claims remaining in the present patent application are numbered 1-20. Claims 1, 8, and 15 have been amended. The rejections and comments of the Examiner set forth in the Office Action dated December 14, 2004 have been carefully considered by the Applicants. Applicants respectfully request the Examiner to consider and allow the remaining claims.

35 U.S.C. 103 Rejection

Claims 1 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto. (U.S. Patent No. 5,784,132) in view of Sono et al. (U.S. Patent No. 5, 513,028). In addition, Claims 2-4 and 8-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto, Sono et al., and further in view of Hill et al. (U.S. Patent No. 6,577,291 B2). Applicants have reviewed the above cited references and respectfully submit that the present invention as recited in Claims 1-21 is neither anticipated or rendered obvious by the Hashimoto, Sono, and Hill et al. references taken alone or in combination.

Independent Claims 1, 8, and 15

Regarding independent Claims 1, 8, and 15, embodiments of the presently claimed invention disclose a display unit including a pixel border of dummy pixels. In particular, independent Claims 1, 8, and 15 each recite that the present intention includes, in part:

a pixel border having a predetermined width, said pixel border surrounding said matrix of independently controllable discrete pixels and comprising dummy pixels, wherein each dummy pixel comprises respective filter elements without any active element driven by a driver circuit and not capable of modification, and wherein said dummy pixels allows light to pass through to improve contrast of edge-displayed images of said matrix and to match the background pixel color of said matrix of independently controllable pixels. (Emphasis Added)

The claimed embodiments of Claims 1, 8, and 15 pertain to a display unit including a

pixel border that comprises dummy pixels. More particularly, each dummy pixel does not contain any active element that is driven by a driver circuit. Each dummy pixel is configured to allow light to pass through to be displayed in order to improve contrast of edge-displayed images of the matrix in a display. As such, each dummy pixel is configured to match the background pixel color of said matrix of independently controllable pixels.

Applicants agree with the Examiner that the Hashimoto reference does not disclose the dummy pixels allowing light to pass through to improve contrast of edge displayed images. Specifically, the Hashimoto reference teaches away from allowing light to pass through to be displayed by disclosing a mask layer that blocks any light through the dummy pixels. However, Applicants disagree that the Sono et al. reference discloses the dummy pixels as claimed.

Applicants respectfully note that the Sono et al. reference fails to overcome the shortcomings of the Hashimoto reference in that the Sono et al. reference does not disclose a dummy pixel that allows light to pass through to improve contrast of edge displayed images. Specifically, the Sono et al. reference discloses a liquid crystal display device that has a pixel electrode substrate with a step defined by adjacent display and non-display areas. Although the Sono et al. reference discloses that the dummy pixels has the same layer structure as the pixels in the display areas, Applicants respectfully assert that the dummy pixels from an opaque layer, “thereby rendering said dummy area completely black.” That is, Applicants respectfully assert that the Sono et al. reference discloses that the dummy pixels render the pixel color to be completely black. Thus, Applicants respectfully assert that the Sono et al. reference does not disclose a dummy pixel that allows light to pass through to improve contrast of edge displayed images, as presently claimed in independent Claims 1, 8, and 15 of the present invention.

As such, Applicants respectfully submit that any combination of the Hashimoto and Sono et al. references does not teach or suggest the display unit of the present invention as recited in independent Claims 1, 8, and 15. Specifically, even if the controllable elements as disclosed with the Sono et al. reference were combined with the Hashimoto reference, no light would be allowed to pass through to improve contrast of edge-displayed images because the Sono et al. reference discloses dummy pixels that “render the dummy area completely black.” As such, Applicants respectfully assert that the Hashimoto and Sono et al. references do not disclose a dummy pixel that is configured to allow light to pass through to improve contrast of edge displayed images and where the dummy pixel is configured to match the background pixel color of said matrix of independently controllable pixels, as recited in independent Claims 1, 8, and 15 of the present invention.

Moreover, the Hill et al. reference fails to overcome the shortcomings of the Hashimoto and Sono et al. references. That is, the Hill et al. reference fails to teach or suggest a dummy pixel that does not contain any active element driven by driver circuits and that allows light to pass through to improve contrast of edge displayed images. Additionally, Applicants respectfully assert that the Hashimoto and Sono, and Hill et al. references taken alone or in combination do not disclose a dummy pixel that is configured to match the background pixel color of said matrix of independently controllable pixels, as presently claimed in independent Claims 1, 8, and 15 of the present invention.

Accordingly, Applicants respectfully submit that independent Claims 1, 8, and 15 overcome the cited references. As such, Claims 2-7, which depend on independent Claim 1, are also in a condition for allowance as being dependent on an allowable base claim. Further,

Claims 9-14, which depend on independent Claim 8, are also in a condition for allowance as being dependent on an allowable base claim. Further, Claims 16-20, which depend on independent Claim 15 are also in a condition for allowance as being dependent on an allowable base claim.

CONCLUSION

In light of the facts and arguments presented herein, Applicants respectfully request reconsideration of the rejected Claims.

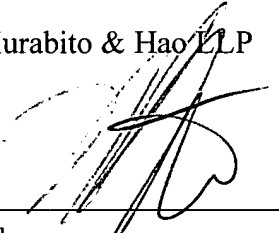
Based on the arguments presented above, Applicants respectfully assert that Claims 1-20 overcome the rejections of record. Therefore, Applicants respectfully solicit allowance of these Claims.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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